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Switching device based on wave function size change Size Regulating Systems

Abstract

A The invention concerns a method and a device for swfitching in computing, electronics, optoelectronics, detection etc. ~~Wherein, wherein~~ the switching state is ~~relaterelated~~ to change in ~~electrielectrical~~ charge distribution denoted as ~~--particle~~ wave function size in space. Each wave function size indicates a different ~~switched~~ switching state. ~~The switchedswitching~~ states are changed by energy received or transmitted by the particle. This switching method can operate ~~hat~~ at room temperature. Preferred ~~embodimentembodiments~~ include layers 52 and 58 that have a common cross-section, ~~and~~ a silicon oxide insulators layer 56. A voltage bias is applied to ~~Aluminum--an aluminum--based~~ metallic contact 60 relative to contact 62 ~~the~~. The potential ~~differenceen--difference~~ on opposites sides of layer 52 ~~raised--and~~ ~~increasedincreases~~ the kinetic energy inside layer 52, which is made of ~~--silicon~~ with ~~phosphoreousphosphorus~~ dopants, ~~--electrons~~. The electron wave function inside layer 52 ~~expandexpands~~ into silicon layer 58; the expanded ~~electrielectrical~~ charge distribution in layer 58 ~~changedchanges~~ the potential difference between ~~Aluminum~~ ~~aluminum--based~~ metallic contacts 68,70 and ~~changed--changes~~ the conduction current in ~~Aluminumaluminum~~ conductor 64.

References Cited [Referenced By]

- 1.E. Yahalomi, Arxiv, physics/0109013, (2001).
- 2.E. Yahalomi, Arxiv, cond-mat/0310144, (2003).
- 3.D. J. Gross and F. Wilczek, Phys. Rev. Letters 30, 1343 (1973).
- 4.H. D. Politzer, Phys. Rev. Lett. 30, 1346 (1973).

Description

Background Of The Inventionof the invention

1. Field of invention

The present invention ~~relate to~~ concerns switching methods for computers and